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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,618	11/03/2005	Richard P Anderson	ITP 29	7604
43/0/8	7590	06/20/2008		
HARRY M. LEVY OLSON & HIERL, LTD. 20 North Wacker 36th Floor CHICAGO, IL 60606-4401			EXAMINER WYSZOMIERSKI, GEORGE P	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 06/20/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/535,618

Applicant(s)

ANDERSON ET AL.

Examiner

George P. Wyszomierski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/27/08 (Election).
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
4a) Of the above claim(s) 22-32 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-21 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 19 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date 11/3/05
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

1. Applicant's election of Group I, claims 1-21 in the reply filed on March 27, 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 22-32 are withdrawn from consideration as directed to a non-elected invention.

Objection to Drawings

2. The drawings are objected to because drawing features **50**, **52**, **60** and **62** are recited in the specification but do not appear to be present anywhere in the drawing. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

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applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. Claims 4-10 and 14-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) In claim 4, line 2, it is unclear what the parenthetical phrase "(filter and line)" is intended to signify.

b) In claim 9, the meaning of "CP 1 to CP 4" is unclear, i.e. what particular alloys are being referred to by this phrase?

c) In claim 14, lines 2-4, it is uncertain whether the clause "introducing a metal halide...amount required" denotes a required part of the claimed process, or is merely a part of the preamble to this claim.

d) Claims dependent upon any of the above are likewise rejected under this statute.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Armstrong et al. (U.S. Patent 6,409,797).

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Armstrong column 7, lines 32-47 discloses separating liquid metal (e.g. sodium), metal powder (e.g. titanium) and salt (e.g. sodium chloride) by separating the latter products from the sodium, and then passivating the titanium. The passivating appears to take place at a different location than the previous step, i.e. equivalent to the claimed "second vessel". Prior to this, the system is subjected to an argon purge (see Armstrong column 7, line 17), which would result in the "inert environment" required by the instant claims. Thus, all aspects of the claimed invention are held to be fully met by the Armstrong et al. disclosure.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong et al. '797.

The Armstrong patent, discussed supra, does not specify separating the liquid metal (i.e. sodium) both as a liquid and a vapor, as required by claims 4-10, and does not specify protecting the environment from oxygen contamination as required by claim 13. However,

a) Armstrong column 6, lines 16-18 indicates that the liquid sodium in the prior art serves as a heat transfer medium allowing useful recovery of the considerable reaction heat in that process. It is a reasonable assumption that in such a heat transfer step at

least a small amount of the sodium will become a vapor, at least to the degree required by the instant claims.

b) With regard to claim 13 and prevention of oxygen contamination, the examiner's position is that the use of an inert environment, particularly one that will not cause oxidation of the desired products of a metallurgical operation, is of such importance to one making metallic compositions that to include the limitations as claimed in the prior art process would have been considered an obvious expedient to one of ordinary skill in the art. This is particularly true in a case where the desired product is in the form of extremely small particles of a highly reactive metal such as titanium, as is the case in the Armstrong process.

c) It is further noted that Armstrong produces titanium powder of a size as recited in claim 10, and is directed to production equally to the production of alloys as well; see Armstrong column 8, line 4.

Thus, the disclosure of Armstrong et al. is held to create a prima facie case of obviousness of the invention as presently claimed.

8. Claims 1-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 10/570422. Although the conflicting claims are not identical, they are not patentably distinct from each other because the process of the instant claims and that of the '422 claims appears to be directed to the same series of process steps, performed in the same order and for the same purpose, and preferably for producing

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the same material (titanium or titanium alloy) in both instances. With respect to the "filtration and vaporization of liquid metal" limitation of instant claim 14, claim 3 of the '422 application recites an identical limitation. Further, the '422 claims recite the limitations of instant claim 3. Thus, no patentable distinction is seen between the process as defined in the instant claims and that claimed in the '422 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. The remainder of the art cited on the attached PTO-892 and 1449 forms is of interest. This art is held to be no more relevant to the claimed invention than the art as applied in the rejections, *supra*.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/George Wyszomierski/
Primary Examiner
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GPW
June 17, 2008